

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number  
**WO 2005/059434 A1**

(51) International Patent Classification<sup>7</sup>: **F21V 8/00**

(21) International Application Number:  
PCT/GB2004/005111

(22) International Filing Date: 7 December 2004 (07.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0329205.9 17 December 2003 (17.12.2003) GB

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant and

(72) Inventor: GRAHAM, Morton [GB/GB]; 5 Parkway, West Houghton, Bolton, Lancashire BL5 2RY (GB).

(74) Agent: HARRISON GODDARD FOOTE; Orlando House, 11c Compstall Road, Marple Bridge, Stockport SK6 5HH (GB).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

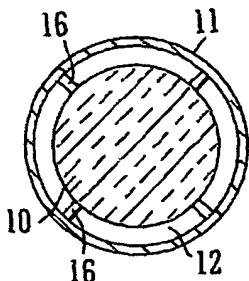
— with international search report

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/059434 A1

(54) Title: AN ILLUMINATION DEVICE



(57) Abstract: An illumination device comprising an elongate rod (10) or strip of translucent material located within a tube (11) to define a gas space (12) therebetween, the rod having a disrupted surface by way of undulation (13) or striation (17), and a light source located at one or both ends of the device to cause light travelling along the rod to exit transversely to its axis. Primary diffusion occurs within the rod by total internal reflection. Secondary diffusion occurs within the gas space, and a substantially uniform light output is generated by the surrounding tube. For longer lengths of rod the striation may be increased within a central region (21, 22) thus to ensure uniformity of light output throughout the length. If required, a beam of light may be generated by providing a reflector (15, 16) within the gas space (12).